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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,672	12/31/2003	Markku Juntti	60091.00275	2772

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SQUIRE, SANDERS & DEMPSEY L.L.P.  
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TYSONS CORNER, VA 22182

EXAMINER
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PEREZ, ANGELICA

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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01/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/748,672

**Applicant(s)**

JUNTTI ET AL.

**Examiner**

Perez M. Angelica

**Art Unit**

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Objection to claim 14 has been withdrawn.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27 and 30 of the claimed invention are directed to non-statutory subject matter.

Claims 27 and 30 are rejected because "a program" is not directed to a process since it is not a series of steps or acts being performed, but instead a program which when executed would cause a series of process steps or acts to occur. Claims 27 and 30 are directed to a program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program nor a manufacture structurally and functionally interconnected with the program in a manner in which enables the program to act as a computer component and realize its functionality. It is also not directed to a composition of matter. In addition, paragraph [0129] includes intangible embodiments.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Henttu, Pertti (Henttu, WO 02/091610 A!).

Regarding claims 1, 9, 13, 20, 25, 27, 30, 32, 33 and 34, Henttu teaches of a method (par. 15), a transceiver/means (figure 4, 408, "plurality of transceivers"), a system (fig. 3 and 4), a computer program embodied in a computer readable medium executed by a processor (paragraph 38), of allocating resources in a wireless telecommunications system (paragraph 2, where processing and/or radio resources are allocated according to the results), where wireless signals are transmitted over a signal space (abstract, where radio system comprises wireless signals), the method comprising: generating a sampled receive signal from a wirelessly received signal (par. 15); deriving an interference level threshold on the basis of an iterative statistical analysis of the sampled receive signal (par. 15-16, 25-26, e.g., "In method step 108 is formed a threshold value..."); identifying an interfered portion of the signal space on the basis of a comparison of the sampled receive signal and the interference level threshold (par. 26, e.g., "the samples representing the interfering signal are..."); and reducing transmit resources from the interfered portion of the signal space (par. 26, where by extracting the interfering signal, less resources are allocated).

Regarding claims 2, 10, 14, 26 and 28, Henttu teaches all the limitations of claims 1, 9, 13, 25 and 27, respectively. Henttu further teaches calculating the mean of the sampled receive signal (paragraph 16, e.g., "the average of the magnitudes of the samples", see equation 1); generating the interference level threshold by using the mean (par. 15-16, 25-26, e.g., "In method step 108 is formed a threshold value...");

where the mean is part of the algorithm that calculates the threshold), and a predefined reliability factor characterizing statistics of a non-interfered portion in the sampled receive signal (paragraph 16, where it is based on "the statistical characteristics of the noise-free signal"); and neglecting a portion of the sampled receive signal, the portion lying above the interference level threshold (paragraph 21, once the threshold is established, the information outside it is not considered ).

Regarding claims 3, 11, 15, 21, and 29, Henttu teaches all the limitations of claims 1, 9, 13, 20 and 27, respectively. Henttu further teaches of reducing receive resources from the interfered portion of the signal space (par. 26, where by extracting the interfering signal, less resources are allocated).

Regarding claims 4, 16 and 22, Henttu teaches all the limitations of claims 1, 13 and 20, respectively. Henttu further teaches where the step of reducing the transmit resources includes at least one element from the group comprising: attenuating a portion of transmit signal, the portion being located in the interfered portion of the signal space; and excising a portion of the transmit signal, the portion being located in the interfered portion of the signal space (par. 26, where the desired signal is transmitted; therefore, excising the noise (undesired signal). See also claim 4).

Regarding claims 5, Henttu teaches all the limitations of claim 1. Henttu further teaches of transmitting information on the interfered portion of the signal space; and receiving the information; and reducing the transmit resources from the interfered portion of the signal space on the basis of the information (par. 26, where at least

processing and power resources are reduced when the desired signal and noise are separated).

Regarding claims 6, Henttu teaches all the limitations of claim 1. Henttu further teaches of transmitting information on the interfered portion of the signal space; and receiving the information; and reducing the receive resources from the interfered portion of the signal space on the basis of the information (par. 26, where at least processing and power resources are reduced when the desired signal and noise are separated).

Regarding claims 7, 18, 23 and 31, Henttu teaches all the limitations of claims 1, 13, 20 and 30, respectively. Henttu further teaches of allocating transmit resources to a non-interfered portion of the signal space (par. 26, claim 5).

Regarding claims 8, 12 and 19, Henttu teaches all the limitations of claims 1, 9 and 13, respectively. Henttu further teaches where the signal space includes at least one dimension selected from the group comprising: a spatial dimension, a temporal dimension, a frequency dimension, a fractional frequency dimension (par. 30, where at least time and frequency dimensions are utilized).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 1:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez  
Examiner



MATTHEW ANDERSON  
SUPERVISORY PATENT EXAMINER

Art Unit 2618

January 8, 2008